Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-8. (Canceled)

9. (Currently amended) A compound representation of genomic DNA consisting essentially of a plurality of DNA fragments, wherein the DNA fragments are those ~~fragments~~ of a first representation that do not possess a predetermined second restriction endonuclease site, said second restriction endonuclease site being different from that recognized by a first restriction endonuclease used to make the first representation, and wherein the first representation is made by digestion of the genomic DNA with the first restriction endonuclease, followed by linkage of adaptors and then amplification with primers complementary to the adaptors.

10. (Previously presented) A compound representation of genomic DNA consisting essentially of a plurality of DNA fragments, wherein the DNA fragments are ~~portions of~~ those ~~fragments~~ of a first representation that possess a predetermined second restriction endonuclease site, said second restriction endonuclease site being different from that recognized by a first restriction endonuclease used to make the first representation, and wherein the first representation is made by digestion of the genomic DNA with the first restriction

endonuclease, followed by linkage of adaptors and then amplification with primers complementary to the adaptors.

11-14. (Canceled)

15. (Withdrawn) A method of producing a compound representation of DNA, comprising:

(a) digesting a sample of DNA with a first restriction endonuclease to provide digested DNA fragments;

(b) ligating an adaptor to said digested DNA fragments;

(c) amplifying said DNA fragments using primers complementary to said adaptor to provide a first representation of said DNA;

(d) digesting the first representation with a second restriction endonuclease to provide digested DNA fragments, wherein said second restriction endonuclease is different from said first restriction endonuclease; and

(e) amplifying said DNA fragments of step (d) using primers complementary to said adaptor to provide a compound representation of said DNA.

16. (Withdrawn) A method of producing a compound representation of DNA, comprising:

(a) digesting a sample of DNA with a first restriction endonuclease to provide digested DNA fragments;

(b) ligating a first adaptor to said digested DNA fragments;

(c) amplifying said DNA fragments using primers complementary to said first adaptor to provide a first representation of said DNA;

(d) digesting the first representation with a second restriction endonuclease to provide digested DNA fragments, wherein said second restriction endonuclease is different from said first restriction endonuclease;

(e) ligating a second adaptor to the ends of said fragments of step (d) created by the second restriction endonuclease;

(f) ligating a third adaptor to the 5' ends of said fragments of step (d); and

(g) amplifying said DNA fragments of step (f) using primers complementary to the second and third adaptors to provide a compound representation of said DNA.

17-38. (Cancelled)

39. (Withdrawn) A method of producing a compound representation of DNA, comprising:

(a) digesting a sample of DNA with a first restriction endonuclease to provide digested DNA fragments;

(b) ligating an adaptor to said digested DNA fragments;

(c) digesting said digested DNA fragments with a second restriction endonuclease to provide double-digested DNA fragments, wherein said second restriction endonuclease is different from said first restriction endonuclease; and

(d) amplifying said double-digested DNA fragments using primers complementary to said adaptor to provide a compound representation of said DNA.

40. (Currently amended) The compound representation according to claim 9, wherein said genomic DNA is obtained from a biopsy specimen, a cell line, an autopsy specimen, a forensic specimen or a paleontological specimen.

41. (Currently amended) The compound representation according to claim 9, wherein said genomic DNA is obtained from a fractionated cell or tissue sample.

42. (Currently amended) The compound representation according to claim 10, wherein said genomic DNA is obtained from a biopsy specimen, a cell line, an autopsy specimen, a forensic specimen or a paleontological specimen.

43. (Currently amended) The compound representation according to claim 10, wherein said genomic DNA is obtained from a fractionated cell or tissue sample.

44. (Withdrawn) The method according to claim 15, wherein said DNA is obtained from a biopsy specimen, a cell line, an autopsy specimen, a forensic specimen or a paleontological specimen.

45. (Withdrawn) The method according to claim 15, wherein said DNA is obtained from a fractionated cell or tissue sample.

46. (Withdrawn) The method according to claim 16, wherein said DNA is obtained from a biopsy specimen, a cell line, an autopsy specimen, a forensic specimen or a paleontological specimen.

47. (Withdrawn) The method according to claim 16, wherein said DNA is obtained from a fractionated cell or tissue sample.

48. (Withdrawn) The method according to claim 39, wherein said DNA is obtained from a biopsy specimen, a cell line, an autopsy specimen, a forensic specimen or a paleontological specimen.

49. (Withdrawn) The method according to claim 39, wherein said DNA is obtained from a fractionated cell or tissue sample.

50. (Withdrawn) A method of producing a high complexity representation of DNA, comprising:

(a) digesting a sample of DNA with a relatively frequent cutting restriction endonuclease to provide digested DNA fragments;

(b) ligating adaptors to said digested DNA fragments; and

(c) amplifying said DNA fragments using primers complementary to said adaptors to provide a high complexity representation of said DNA

wherein the sample of DNA is obtained from a biopsy specimen, a cell line, an autopsy specimen, a forensic specimen or a paleoentological specimen.

51. (Withdrawn) The method of claim 50 in which the biopsy specimen is a fractioned biopsy specimen or a microdissected biopsy specimen.

52. (Withdrawn) A method of producing a high complexity representation of DNA, comprising:

(a) digesting a sample of DNA with a relatively frequent cutting restriction endonuclease to provide digested DNA fragments;

(b) ligating adaptors to said digested DNA fragments; and

(c) amplifying said DNA fragments using primers complementary to said adaptors to provide a high complexity representation of said DNA

wherein the sample of DNA is obtained from a fixed cell or tissue specimen.

53. (Withdrawn) A method of producing a high complexity representation of DNA, comprising:

(a) digesting a sample of DNA with at least two restriction endonucleases to provide digested DNA fragments in which at least about 20% of said fragments are at between 200 and 1200 bp, wherein the second restriction endonuclease is different from the first restriction endonuclease;

(b) ligating adaptors to said digested DNA fragments; and

(c) amplifying said DNA fragments using primers complementary to said adaptors to provide a high complexity representation of said DNA.

54. (Withdrawn) The method of claim 53 in which the DNA sample is a genomic DNA sample and the high complexity representation represents about 20-90% of the genome.